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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,760	04/18/2000	Kirk B. Ashby	049581-P024US-10006096	3104

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EXAMINER

TRAN, PABLO N

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 12/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/552,760

Applicant(s)

ASHBY ET AL.

Examiner

Pablo N. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-38 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-4, and 8-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Manuel (5,661,485) and further in view of Tomasz (6,400,416).

As per claims 1, 3-4, 15-16, and 30, Applicant's Admitted Prior Art disclosed a method of providing a frequency translation circuit comprising an input signal (fig. 1/item IN) interface accepting a video bandwidth signal at a first frequency, an output signal (fig. 1/item OUT) interface passing said video bandwidth signal at a desire frequency, a first mixer (fig. 1/no. 121) circuit having a first input and a first output, wherein a signal provided to said first input is provided to said first output at an increased frequency; and a second mixer (fig. 3/no. 214) circuit having a second input and a second output, wherein said second mixer is coupled to said first mixer, and wherein a signal provided to said second input is provided to said second output at a decreased frequency (Applicant's Admitted Prior Art, fig. 1, pg. 8/ln. 1-pg. 11/ln. 12).

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Applicant's Admitted Prior Art does not specifically disclose that the first and second mixers are single-sideband/image reject mixers (see specification, abstract). However, Manuel disclosed such teaching of using a first and a second single-sideband/image reject mixers configuration (fig. 8/no. 66 & 74, fig. 3, fig. 4). Therefore, it would have been obvious to one of ordinary skill in the art to provide such mixers configuration, as disclosed in Manuel, to the mixers of Applicant's Admitted Prior Art to provide a lower inherent noise output and remove unwanted image signal.

Furthermore, the modified communication system of the Applicant's Admitted Prior Art do not disclosed that such mixers configuration are disposed on a common IC substrate. However, such mixers configuration disposed on a common IC substrate are well known in the art, as disclosed by Tomasz (fig. 2-5/no. 216). Therefore, it would have been obvious to one of ordinary skill in the art to provide such circuitry arrangement on a single IC substrate, as disclosed in Tomasz, to the modified communication system of Applicant's Admitted Prior Art to provide such compact integrate device that can easily be implement in a receivers.

As per claims 8-10, and 23, the modified communication system of the Applicant's Admitted Prior Art and Tomasz further disclosed a signal amplitude manipulator disposed on a common IC substrate (see Applicant's Admitted Prior Art, fig. 1/no. 114, see Tomasz, fig. 3/no. 252, 256).

As per claims 11-13, 24-25, and 31-32, the modified communication system of the Applicant's Admitted Prior Art and Tomasz further disclosed a filter (see Applicant's

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Admitted Prior Art, fig. 1/no. 141, see Manuel, fig. 8/no. 68) coupled to said first single sideband mixer and is disposed on a common IC substrate.

As per claim 14, the modified communication system of the Applicant's Admitted Prior Art and Tomasz further disclosed a filter (see Tomasz, fig. 3/no. 210) is disposed external.

As per claims 17-19, the modified communication system of the Applicant's Admitted Prior Art and Tomasz further disclosed a phase shifter (see Manuel, fig. 3/no. 3068).

As per claims 20 and 33, the modified communication system of the Applicant's Admitted Prior Art and Tomasz disclosed an amplifier, coupled to said input, is disposed on a common IC substrate (see Applicant's Admitted Prior Art, fig. 1/no. 111, see Manuel, fig. 8/no. 112, see Tomasz, fig. 3/no. 224).

As per claims 21-22, the modified communication system of the Applicant's Admitted Prior Art and Tomasz disclosed an amplifier, coupled to between said first and second mixers, is disposed on a common IC substrate (see Applicant's Admitted Prior Art, fig. 1/no. 112 & 113, see Tomasz, fig. 3/no. 242).

As per claim 23, the modified communication system of the Applicant's Admitted Prior Art and Tomasz disclosed an amplifier coupled to the second output and is disposed on a common IC substrate (see Applicant's Admitted Prior Art, fig. 1/no. 114, see Manuel, fig. 8/no. 116 see Tomasz, fig. 3/no. 252 & 256).

As per claims 26-29, the modified communication system of the Applicant's Admitted Prior Art and Tomasz disclosed said first mixer comprises a fixed frequency

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carrier and said second mixer comprises a variable frequency carrier (see Applicant's Admitted Prior Art, fig. 1/no. 131 & 132, pg. 8/ln. 1-pg. 11/ln. 12).

3. Claims 5 and 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified communication system of the Applicant's Admitted Prior Art and Tomasz (6,400,416) and further in view of McGeehan (5,950,119).

As per claims 5-7 and 34-37, as stated above in claim 1, the modified communication system of the Applicant's Admitted Prior Art and Tomasz further disclosed each of the first and second mixers comprise a first phase shifter (see Manuel, fig. 3/no. 30, fig. 4/no. 54), a second phase shifter (see Manuel, fig. 3/no. 38, fig. 4/no. 58), a first mixer (see Manuel, fig. 3/no. 32, fig. 4/no. 56), a second mixer (see Manuel, fig. 3/no. 34, fig. 4/no. 57). The modified communication system of the Applicant's Admitted Prior Art and Tomasz disclosed such coupling but not explicitly a combiner. However, such combiner is well known in the art, see McGeehan (fig. 5/no. 142). Therefore, it would have been obvious to one of ordinary skill in the art to provide such combiner, as disclosed in McGeehan, to the modified communication system of the Applicant's Admitted Prior Art and Tomasz to provide an accurate gain and phase matching of the paths through the first and second mixers that can be used to achieve a high degree of cancellation of the unwanted image signal.

As per claims 6-7, the modified communication system of the Applicant's Admitted Prior Art, Tomasz and McGeehan disclosed the claimed limitation (see McGeehan et al., fig. 2).

As per claim 38, the modified communication system of the Applicant's Admitted Prior Art, Tomasz and McGeehan disclosed the claimed limitation (see Applicant's Admitted Prior Art, fig. 1, pg. 8/ln. 1-pg. 11/ln. 12, see McGeehan et al., col. 1/ln. 7-22, col. 7/ln. 51-64).

Response to Arguments

4. Applicant's arguments filed 08/31/05 have been fully considered but they are not persuasive.

The Applicant's stated that there are no suggestion or motivation to combine Applicant's Admitted Prior Art, Manuel and Tomasz. Applicant's Admitted Prior Art disclose such frequency conversion apparatus comprising mixers 121 & 122 instead of single side band mixers. Manuel cures such deficiency to remove unwanted image signals in order to provide an outputs signal of desired quality. Since both references are silent about disposing of the modified apparatus on an IC. Tomasz suggested such circuitry disposition. Therefore, such disposition to provide a compact integrate device that can easily be implement in a receivers is well known in the art. Therefore, the combination of Applicant's Admitted Prior Art, Manuel and Tomasz are proper.

Regarding claims 8-10 and 23, the Applicant's stated that the rejection is improper. However, the references disclosed such circuitry for use in a television's receivers, therefore the combination is proper. The modified communication system of Applicant's Admitted Prior Art, Manuel and Tomasz as a whole disclosed such disposition of the signal amplitude manipulator within the IC.

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Regarding claims 11-13, 24-25, and 31-32, see reasoning as stated above for the disposition of a filter.

Regarding claims 11, 12, 24, and 31-32, The Applicant's state that there is no teaching of such filter to provide such attenuation of image signal or carrier leakage signals, as claimed. It is clear that such filter arrangement can be employed to provide a desired signal output based on the system requirements (see Applicant's Admitted Prior Art, pg. 9/ln. 17-21, see Manuel, fig. 6a, 6b, 6c, 6d, col. 9/ln. 27-col. 10/ln. 25).

Regarding claim 14, see reasoning as stated above for the disposition of a filter.

Regarding claims 17-19, see reasoning as stated above for the disposition of a phase shifter.

Regarding claim 23, see reasoning as stated above for the disposition of an amplifier.

Regarding claims 26-29, the modified communication system of Applicant's Admitted Prior Art, Manuel and Tomasz as a whole disclosed a fixed frequency carrier and a variable frequency carrier (see Applicant's Admitted Prior Art, fig. 1/no. 131 & 132, pg. 8/ln. 1-pg. 11/ln. 12).

Regarding claim 5, The Applicant stated the rejection is improper. \Please refer to page 3 of the examiner's action, the modified communication system of Applicant's Admitted Prior Art comprise the combining of the Applicant's Admitted Prior Art and Manuel. Therefore, the rejection is proper.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pablo Tran whose telephone number is (571)272-7898. The examiner normal hours are 9:30 -5:00 (Monday-Friday). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
2. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-directauspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 28, 2005

PABLO N. TRAN
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to be 'P. Tran', with a long horizontal stroke extending to the right.

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